

## REMARKS

Upon entry of this amendment, claims 12-16, 20-24 and 28-32 are pending and under consideration. Claims 1-11, 17-19, 25-27, and 33-50 were canceled by this amendment; in canceling this subject matter from this application, applicants are not conceding the propriety of any rejection made in the August 29, 2003 Office action and applicants expressly reserve the right to pursue the remaining subject matter through one or more continuation applications.

In addition to the amendment addressing the Office's objections set forth below, amendments are presented herein to the pending claims to address matters of form. Formal amendments are made to:

(i) insert the word "and" after the penultimate variable definition in claims 12-15, 20-23 and 28-30;

(ii) change the capitalization of the word "Claim" to read "claim" in claims 13-15, 21-23 and 29-32;

(iii) amend the sentence structure of claims 16, 24 and 32 for improved readability;

(iv) convert claims 12, 20 and 28 into independent claims;

(v) cancel the definition of B in claim 13 as redundant;

(vi) replace the structure of  $Y^0$  in claims 12, 20, 29 and 30 with a structure reflecting that  $K^2$  is carbon and showing the point of attachment of  $Y^0$  to the remainder of the molecule;

(vii) cancel the optional definition of  $R^{16}$  and  $R^{19}$  in claims 12, 14, 20, 22, 28 and 30;

(viii) remove redundant language from the definition of  $Q^b$  in claims 12, 14, 20, 22, 28 and 30;

(ix) cancel the proviso in the definition of  $Q^b$  in claims 13, 21 and 29 as redundant because  $Q^b$  must be bonded to a carbon atom in these claims;

(x) amend the definition of Q or R<sup>2</sup> in claims 12, 13, 20, 21, 28 and 29 to adopt more formal nomenclature as more fully discussed below<sup>1</sup>;

(xi) amend the definition of B in claims 28 and 29 to adopt more formal nomenclature as more fully discussed below;

(xii) replace the nomenclature for Y<sup>0</sup> in claims 13, 14, 21, 22, 29 and 30 with the corresponding structures as more fully discussed below;

(xiii) replace the word "hydrido" with "hydrogen" in claims 12-14, 20-23 and 28-31 for improved readability; and

(xiv) insert the word "or" after the penultimate species listed in claims 16, 24 and 32.

In claims 12, 13, 20, 21, 28 and 29 the definition of Q or R<sup>2</sup> was refined to further clarify that the substituents thereof (*i.e.*, R<sup>9</sup>-R<sup>13</sup>) may be present when Q or R<sup>2</sup> represents an aryl or heteroaryl. These substitutions are present on carbon atoms (since ring heteroatoms of a heteroaryl ring can't be substituted).

Support for the amendment to Q or R<sup>2</sup> in claims 12, 13, 20, 21, 28 and 29 can be found in the claims as originally presented and the specification. As originally presented, claims 12, 13, 20, 21, 28 and 29 included the following phrases in the definition of Q or R<sup>2</sup>: ". . .the other carbon adjacent to the carbon at the point of attachment. . .", "a carbon adjacent to R<sup>9</sup> and two atoms from the carbon at the point of attachment. . .", and "a carbon adjacent to R<sup>13</sup> and two atoms from the point of attachment. . .". Support for the refinement of the definition of Q or R<sup>2</sup> can also be found in the dependent claims. For example, in claim 14, which depends from claim 13, R<sup>2</sup> is defined as specific substituted or unsubstituted aryl or heteroaryl moieties (*i.e.*, 3-amidocarbonyl-5-aminophenyl, 3-pyridyl, 5-amino-3-thienyl, etc.). None of the substituents are present at a ring heteroatom, but instead are present only at ring carbon atoms. Further support for the refinement of Q or R<sup>2</sup> in claims 12, 13, 20, 21, 28 and 29 can be found in the specification at page 14, lines 1-10 wherein Q is formula (II). It should be noted that the ring substituents (R<sup>9</sup>-

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<sup>1</sup>The designation R<sup>2</sup> is used instead of Q in claims 13, 21 and 29 reflecting that Q becomes R<sup>2</sup> when Z<sup>0</sup> is a bond (R<sup>2</sup> is Z<sup>0</sup>-Q).

R<sup>13</sup>) are "each independently selected to maintain the tetravalent nature of carbon, trivalent nature of nitrogen, the divalent nature of sulfur, and the divalent nature of oxygen."<sup>2</sup> In order to fulfill this requirement and maintain an aromatic or heteroaromatic ring system, no substitution at a heteroatom is allowable. These amendments do not alter the scope of the claims, but adopt more formal nomenclature to specify, by ring position, the substituent which may be present when the ring position is occupied by a carbon (since the heteroatoms of heteroaryls are not substituted), thereby obviating any conceivable misinterpretation.

In claims 28 and 29 the definition of B was refined to further clarify that the substituents thereof (*i.e.* R<sup>33</sup> and R<sup>9</sup>-R<sup>13</sup>) may be present when B represents a saturated heterocyclic. These substitutions are present on ring carbon or nitrogen atoms.

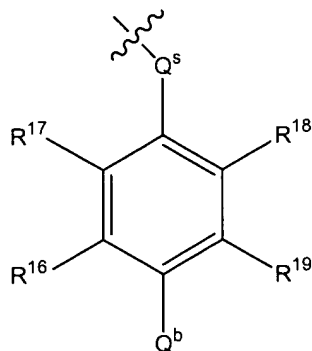
Support for the amendment to B in claims 28 and 29 can be found in the claims as originally presented and the specification. As originally presented, for example, claims 28 and 29 included the following phrases for the definition of B: ". . . ring carbons and a nitrogen adjacent to the carbon atom at the point of attachment . . ." and ". . . a ring carbon or nitrogen adjacent to the R<sup>9</sup> position and two atoms from . . ." Thus, when B is selected to be cycloalkyl in claim 28, only ring carbons are available for substitution. When B is selected to be a saturated heterocyclic, on the other hand, both ring carbon and nitrogen atoms are available for substitution such that the tetravalent nature of the carbon and the trivalent nature of nitrogen is maintained. These amendments do not alter the scope of the claims, but adopt a more formal nomenclature to specify, by ring position, the substituent which is present when the ring position is occupied by a carbon or nitrogen.

Support for the amendments to Y<sup>0</sup> in claims 13, 14, 21, 22, 29 and 30 can be found in the claims as originally presented and in the specification. In claim 13, for

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<sup>2</sup>Specification at p. 14, lines 8-10.

example,  $Y^0$  is defined to include "1- $Q^b$ -4- $Q^s$ -2- $R^{16}$ -3- $R^{17}$ -5- $R^{18}$ -6- $R^{19}$ benzene."<sup>3</sup> To avoid any possibility of misinterpretation, applicants have amended these claims to recite the actual structure represented by the originally presented nomenclature. For example, "1- $Q^b$ -4- $Q^s$ -2- $R^{16}$ -3- $R^{17}$ -5- $R^{18}$ -6- $R^{19}$ benzene" has been replaced with the following formula:



With the exception of the bond-line extending from  $Q^s$ , all of the structures presented in amended claims 13, 14, 21, 22, 29 and 30 can be found in the specification at pages 113-114.<sup>4</sup> Like the amendments to  $Q$ ,  $R^2$  and  $B$  above, this amendment does not alter the scope of the claims, but adopts more formal nomenclature to specify, by ring position, the substituent which may be present when the ring position is occupied by a carbon (since the heteroatoms of heteroaryls are not substituted), thereby obviating any conceivable misinterpretation.

While the claims are believed to be definitive even in the absence of these amendments, the amendments presented herein express the claim limitations in

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<sup>3</sup> $Y^0$  is defined in originally presented claim 13 as follows: " $Y^0$  is selected from the group consisting of: 1- $Q^b$ -4- $Q^s$ -2- $R^{16}$ -3- $R^{17}$ -5- $R^{18}$ -6- $R^{19}$ benzene, 2- $Q^b$ -5- $Q^s$ -6- $R^{17}$ -4- $R^{18}$ -2- $R^{19}$ pyridine, 2- $Q^b$ -5- $Q^s$ -3- $R^{16}$ -4- $R^{17}$ thiophene, 3- $Q^b$ -6- $Q^s$ -2- $R^{16}$ -5- $R^{18}$ -4- $R^{19}$ pyridine, 3- $Q^b$ -5- $Q^s$ -4- $R^{16}$ -2- $R^{19}$ thiophene, 3- $Q^b$ -5- $Q^s$ -4- $R^{16}$ -2- $R^{19}$ furan, 2- $Q^b$ -5- $Q^s$ -3- $R^{16}$ -4- $R^{17}$ furan, 3- $Q^b$ -5- $Q^s$ -4- $R^{16}$ -2- $R^{19}$ pyrrole, 2- $Q^b$ -5- $Q^s$ -3- $R^{16}$ -4- $R^{17}$ pyrrole, 4- $Q^b$ -2- $Q^s$ -5- $R^{19}$ thiazole, and 2- $Q^b$ -5- $Q^s$ -4- $R^{17}$ thiazole."

<sup>4</sup>The bond-line extending from  $Q^s$  illustrates that  $Q^s$  serves as the point of attachment for  $Y^0$  to the remainder of the molecule.

less colloquial, more formal terms. Accordingly, applicants respectfully request that the amendments detailed in Amendment B be entered and allowed.

**I. Rejection based on 35 U.S.C. §112, Second Paragraph**

The Office has rejected claims 1 and 50 under 35 U.S.C. §112, second paragraph. Claims 1 and 50 have been cancelled, thus rendering this rejection moot.

**II. Rejection based on 35 U.S.C. §112, First Paragraph**

The Office has rejected claims 43-48 asserting that the specification does not enable a person skilled in the art to use the invention commensurate in scope with these claims. Claims 43-48 have been cancelled thus rendering this rejection moot.

**III. Rejection based on 35 U.S.C. §101**

The Office has rejected claim 50 as being improper under 35 U.S.C. §101. Claim 50 has been cancelled thus rendering this rejection moot.

**IV. Provisional Nonstatutory Double Patenting Rejection**

The Office has provisionally rejected claims 1-50 under the judicially created doctrine of obviousness-type double patenting in light of copending Application No. 10/275,856. If deemed appropriate, applicants will file a terminal disclaimer after all other rejections have been removed.

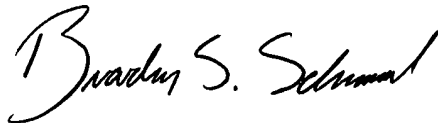
**V. Conclusion**

In light of the foregoing, applicants request entry of the claim amendments, withdrawal of any claim rejections, and solicit an allowance of the claims. The Examiner is invited to contact the undersigned attorney should any issue remain unresolved.

A check in the amount of \$420.00 is enclosed in payment for the two month extension of time.

The Commissioner is hereby authorized to charge any deficiency or overpayment of the required fee to Deposit Account No. 19-1345.

Respectfully submitted,

A handwritten signature in black ink, reading "Bradley S. Schammel". The signature is written in a cursive, flowing style.

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